



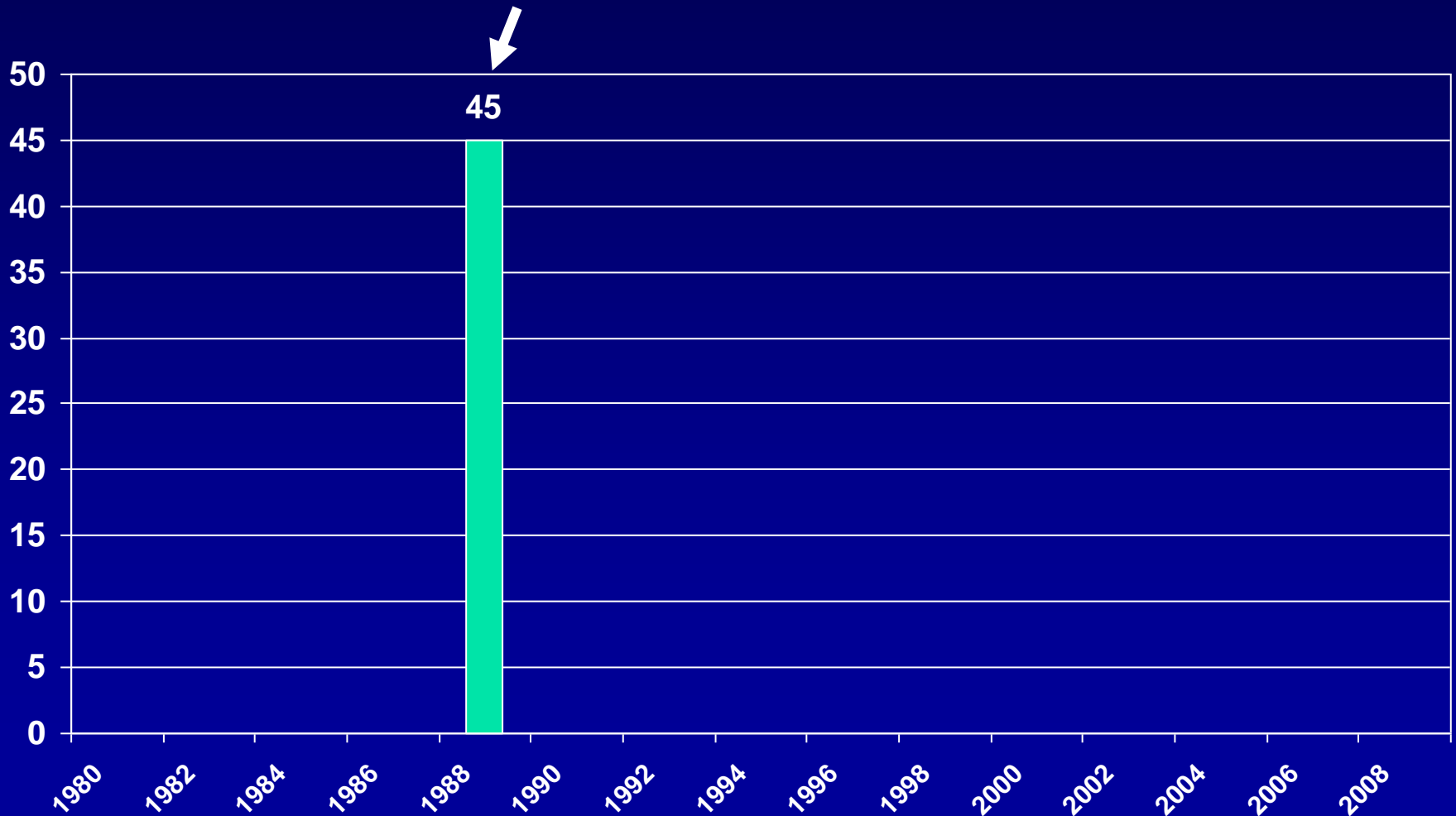
Dental Implants – How many systems do we have and are they documented?

Asbjørn Jokstad, DDS, PhD
Professor and Head, Prosthodontics
Faculty of Dentistry, University of Toronto



Number of dental implants 1988

English CE. Implants. Part three. An overview.
California Dent Assoc J. 1988;16: 34-8.





Review of existing literature

Eckert S et al. Validation of dental implant systems through a review of literature supplied by system manufacturers. J Prosthet Dent 1997;77: 271-9.

Conclusion:

On the basis of the literature supplied by the manufacturers, only one implant system demonstrated scientifically valid long-term success.



Situation, 1999

- 1. The number of implants and implant systems increase continuously worldwide**
- 2. The FDI World Dental Federation is concerned about the quality of all the new implants being marketed**
- 3. The FDI Science Committee is asked to investigate the issue**
- 4. The work is commissioned to prof. A Jokstad**





Implant brands/ systems available in N. America in 1999 (n=98)

REVIEW ARTICLE

Implants and Components: Entering the New Millennium

Paul P. Binon, DDS, MSD¹

The elusive dream of replacing missing teeth with artificial analogs has been part of dentistry for a thousand years. The coincidental discovery by Dr P-I Brånemark and his coworkers of the tenacious affinity between living bone and titanium oxides, termed *osseointegration*, propelled dentistry into a new age of reconstructive dentistry.

Initially, the essential tenets for obtaining osseointegration dictated the atraumatic placement of a titanium screw into viable bone and a prolonged undisturbed, submerged healing period. By definition, this required a 2-stage surgical procedure. To comply, a coupling mechanism for implant placement and the eventual attachment of a transmucosal extension for restoration was explored. The initial coronal design selected was a 0.7-mm-tall external hexagon. At its inception, the design made perfect sense, because it permitted engagement of a torque transfer coupling device (fixture mount) during the

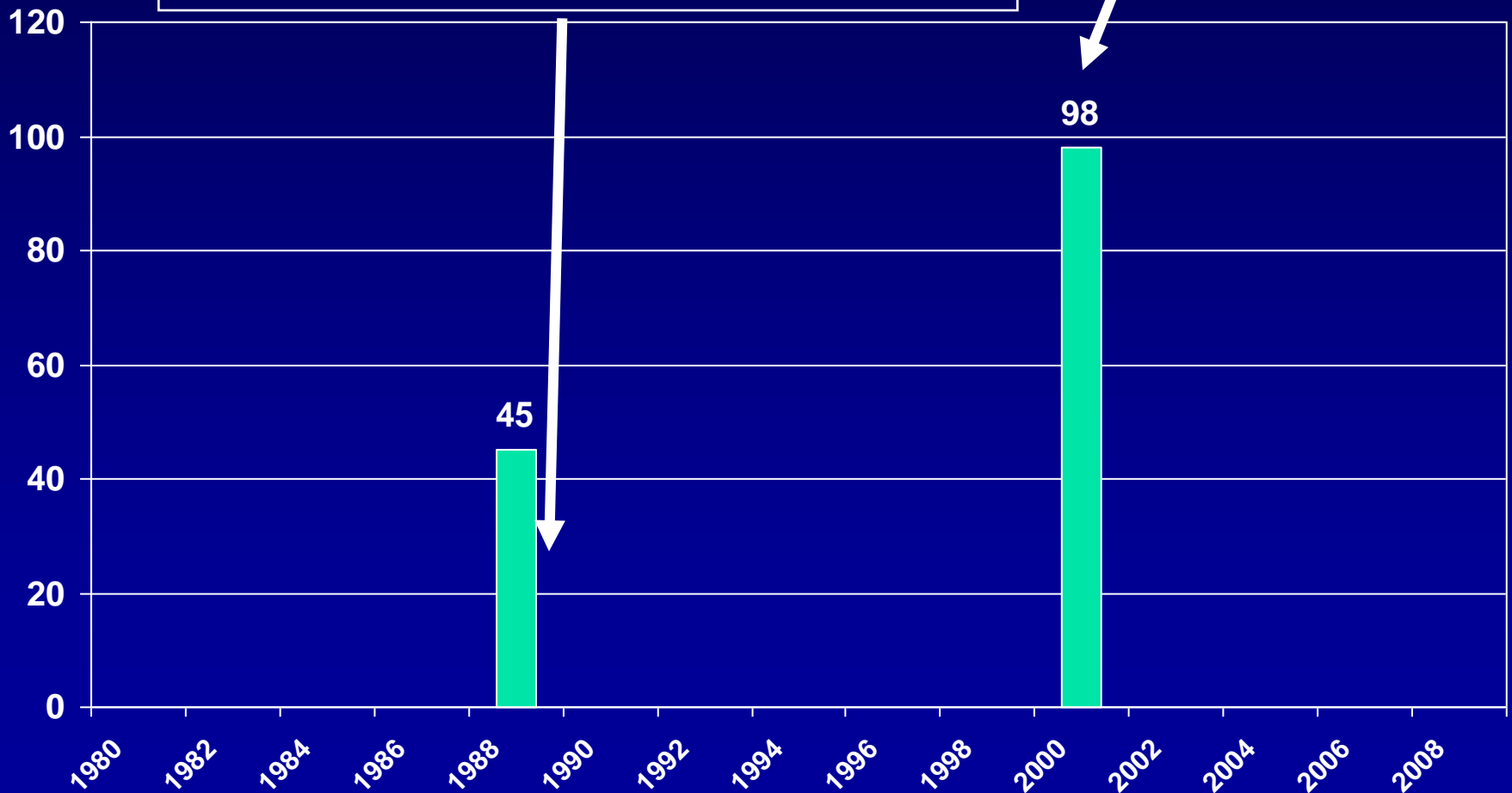
replacement, maxillofacial and a myriad of other applications, limited only by the ingenuity and skill of the clinician.¹¹⁻¹³ The external hexagonal design, ad modum Brånemark, originally intended as a coupling and rotational torque transfer mechanism, consequently evolved by necessity into a prosthetic indexing and antirotational mechanism.^{14,15} The expanded utilization of the hexagonal resulted in a number of significant clinical complications.^{8-11,16-22} To mitigate these problems, the external hexagonal, its transmucosal connections, and their retaining screws have undergone a number of modifications.²³ In 1992, English published an overview of the then-available external hexagonal implants, numbering 25 different implants, all having the standard Brånemark hex configuration.¹⁴ The external hex has since been modified and is now available in heights of 0.7, 0.9, 1.0, and 1.2 mm and with flat-to-flat widths of 2.0, 2.4, 2.7, 3.0, 3.3, and 3.4 mm,



Number of implants 2000

Binon PP. Implants and components: entering the new millennium. Int J Oral Maxillofac Implants. 2000;15:76-94.

English CE. Implants. Part three. An overview. CDA J. 1988;16: 34-8.



***Jokstad, Brägger, Brunski, Carr,
Naert, Wennerberg. Int Dent J
2003; 53 Sup 2: 409-33***

Asbjørn Jokstad, Oslo, Norway
Urs Braegger, Bern, Switzerland
John B. Brunski, Troy, USA
Alan B. Carr, Rochester, USA
Ignace Naert, Leuven, Belgium
Ann Wennerberg, Gothenburg, Sweden

International
Dental
Journal

6/03
Supplement 2



Quality of Dental Implants

fdi
Published by
FDI World Dental Press



Commercially available implant and implant systems in October 2003:

225 implant brands

78 manufacturers – from all continents

~70 implant brands no longer marketed



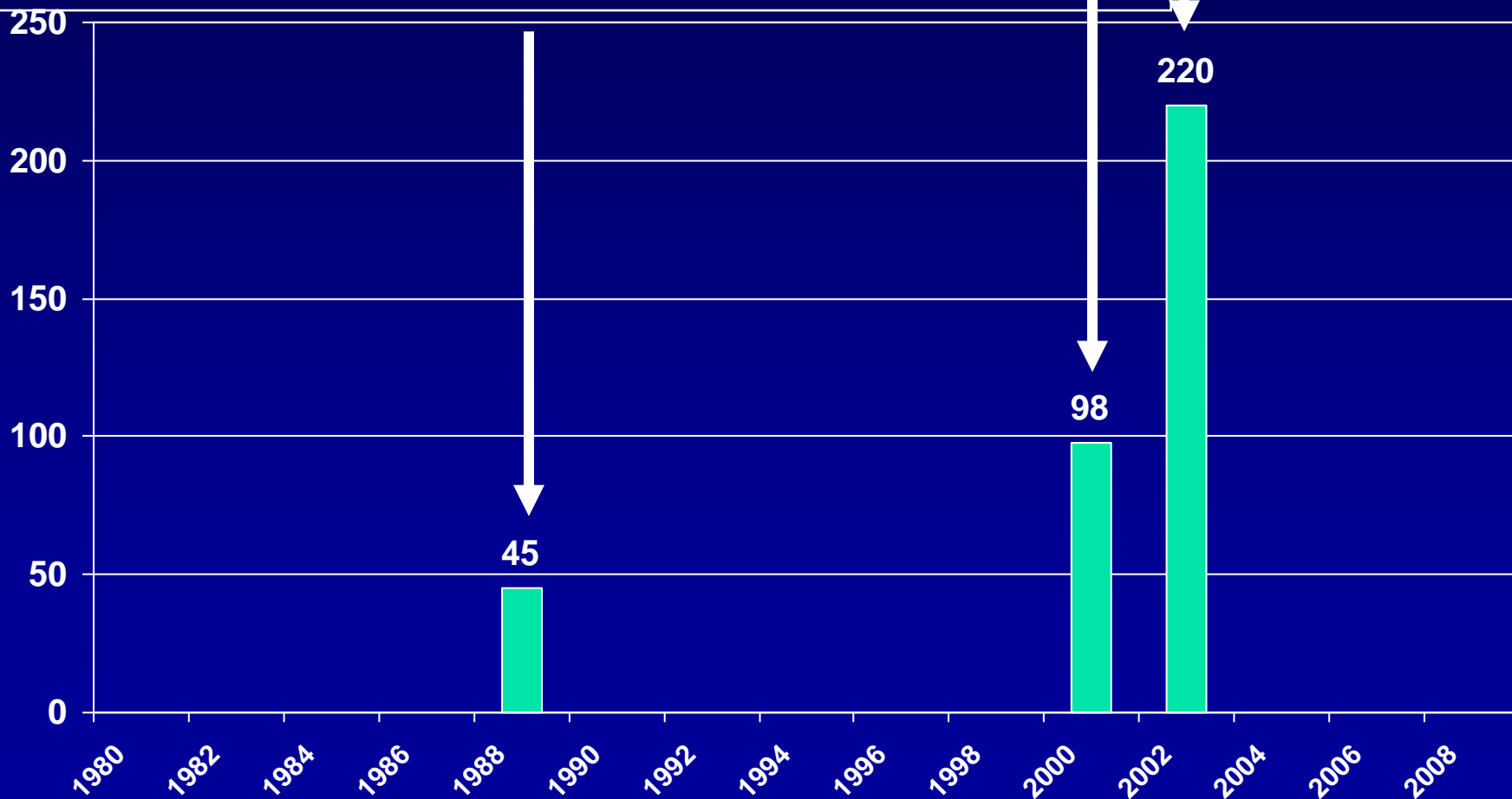


Number of implants 2003

Jokstad A, et al. Quality of dental implants. *Int Dent J.* 2003;53(6 Suppl 2):409-43

Binon PP..Implants and components: entering the new millennium. *Int J Oral Maxillofac Implants.* 2000;15:76-94.

English CE. Implants. Part three. An overview. *CDA J.* 1988;16: 34-8.



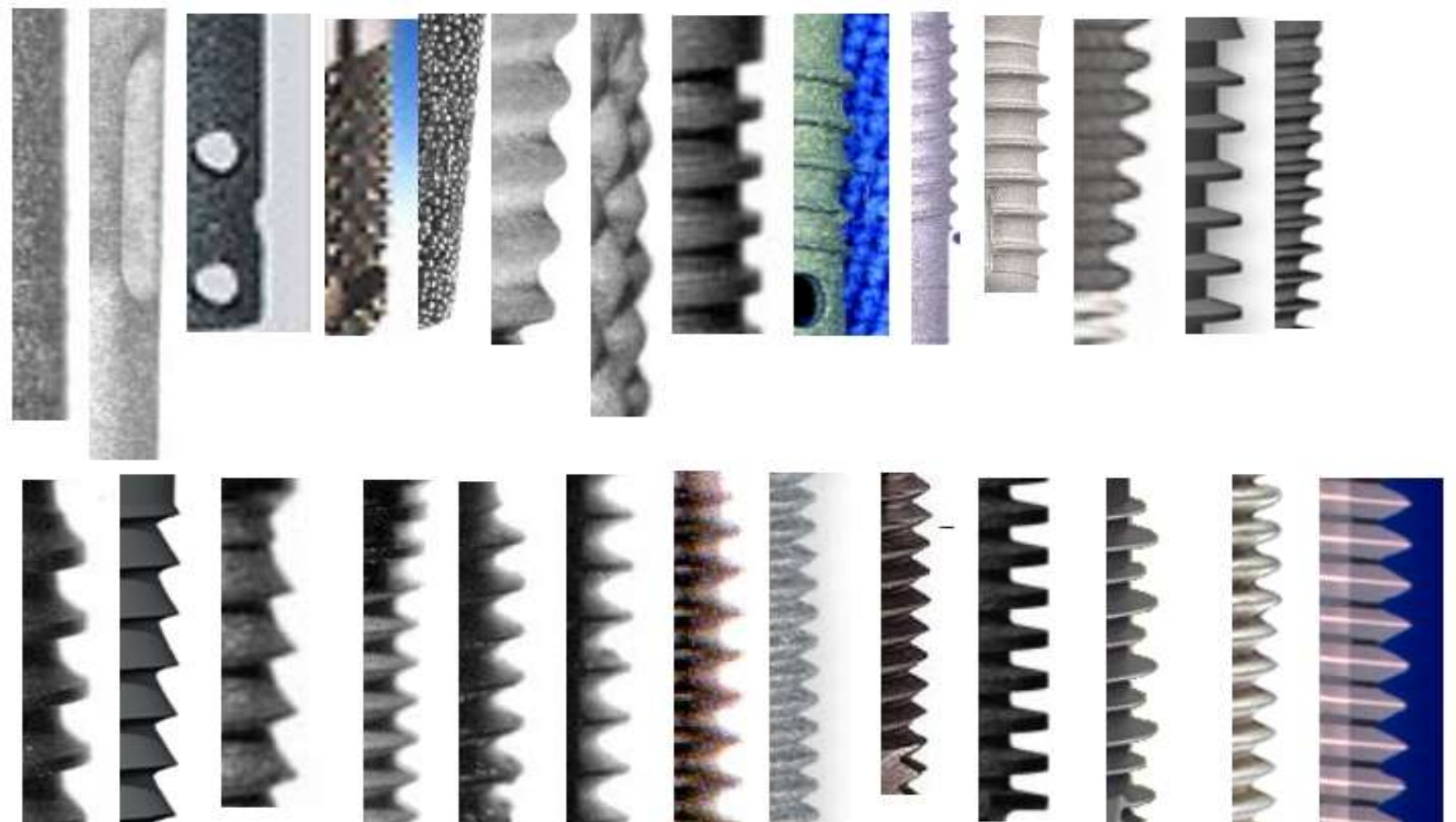


Straight, Tapered, Conical, Ovoid, Trapezoidal, Stepped & combinations ...

Flange design



- Flange vs. no flange
- Straight vs. flared vs. widening
- Height
- Polished vs. threads
- Added features
- Surface topography



- Threads vs. non-threads
- Shape: V- vs. square- vs. reverse buttress- vs. combinations
- Number and size of “lead threads”
- Number and location of grooves, groove forms and groove sizes
- Surface micro-topography
- Thread angle



Apex

- Threaded vs non-threaded
- V-shape vs flat vs curved apex
- Holes, round, oblong
- Apical chamber
- Grooves and groove size
- Flared apex
- Surface topography

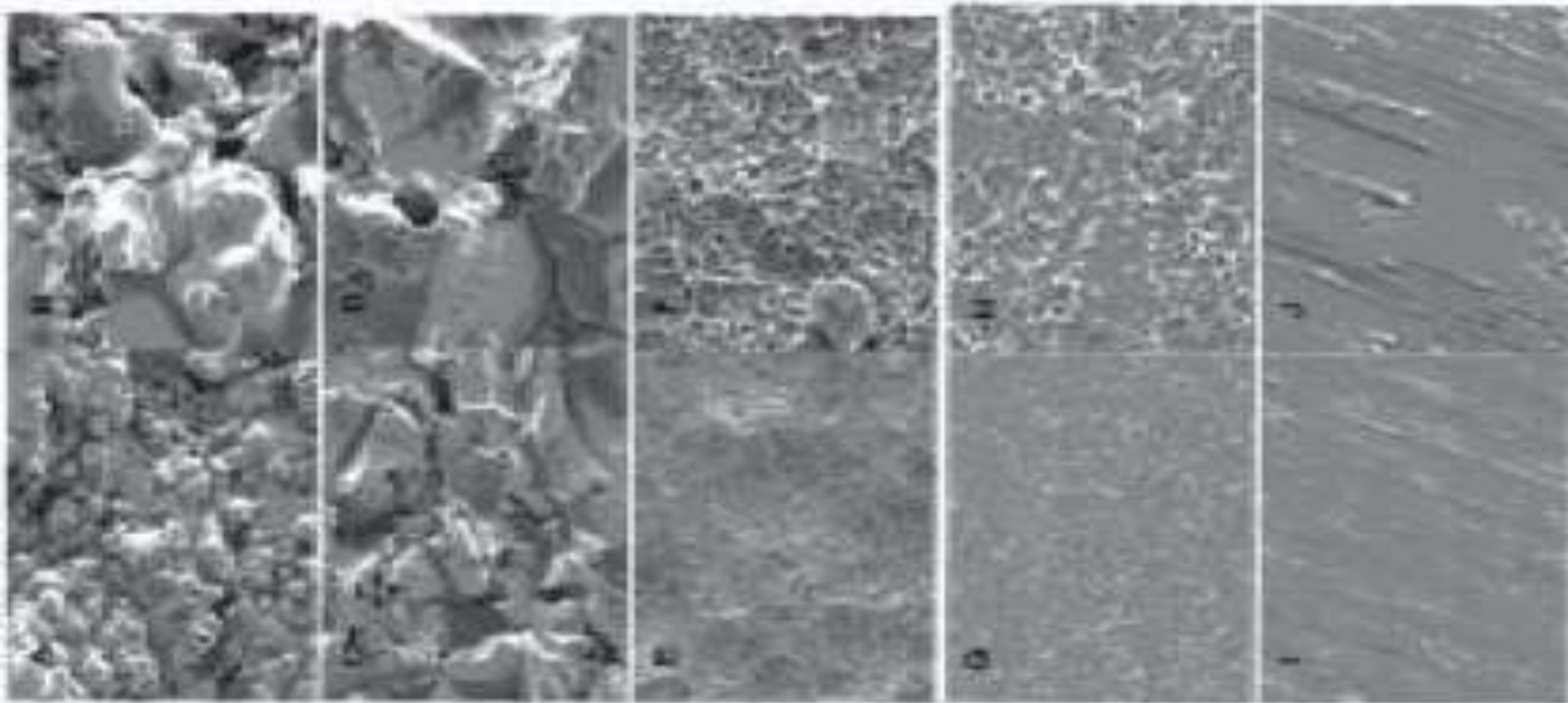


Interface geometry

- External vs Internal
- Hexagonal vs. Octagonal vs cone
- Morse taper
- Rotational vs non-rotational
- Added non-rotational features
- Heights & widths
- Butt vs bevel joints
- Slip-fit vs friction-fit joints
- Resilience vs nonresilience



High (top) and low (bottom) magnification of cpTi surfaces as used for surface characterization.



Plasma-sprayed (TPS);

Grit-blasted

Grit-blasted and dual acid-etched

Dual acid-etched

Machined (turned)

| <u>Surface topography</u> | <u>Machining process</u> | <u>Example</u> |
|--|--------------------------|--|
| Anisotropic with oriented cutting marks | Turned | Brånemark System® MKIII (Nobel Biocare) |
| Isotropic | Blasted | TiO2 particles (Tioblast®, AstraTech) |
| Isotropic | Blasted + acid etched | 1. Large size Al2O3 particles & HCl & H2SO4 (SLA®, Straumann) - 2. Tricalcium phosphate & HF & NO3 (MTX®, Centerpulse) |
| Isotropic with high frequency irregularities | Acid etched | HCl / H2SO4 (Osseotite®, 3i) |
| Isotropic and rough | Hydroxyapatite coated | Sustain® (Lifecore) |
| Isotropic and rough | Titanium Plasma Sprayed | ITI® TPS (Straumann) |
| Isotropic with craterous structure | Oxidized | TiUnite® (Nobel Biocare) |



Clinical documentation?



Clinical documentation



A. Implant or implant system with extensive clinical documentation: >4 clinical trials

10

B. Implant or implant system with limited clinical documentation, i.e. <4 trials, but of good methodological quality

11

C. Implant or implant system with limited published clinical documentation

29

D. Implant or implant system with no published clinical documentation.

28

Quality Assessment of Randomized Controlled Trials of Oral Implants

Marco Esposito, DDS, PhD¹/Paul Coulthard, BDS, MFGDP, MDS, FDSRCS, PhD²/
Helen V. Worthington, BSc, MSc, PhD, FIS³/Asbjørn Jokstad, DDS, PhD⁴

The aim of this study was to assess the quality of randomized controlled trials (RCTs) concerned with the effectiveness of oral implants and to create a trial register. A multilayered search strategy was used to identify all RCTs published by the end of 1999 in any language. The Cochrane Oral Health Group specialist register, PubMed, and personal libraries were searched. Seventy-four RCTs were identified. Forty-three articles, not presenting the same patient material, were independently assessed by 3 researchers using a specially designed form. A statistician assessed all trials for the appropriateness of statistics. The quality of each study was assessed on 7 items, including 3 key domains. Randomization and concealment allocation procedures were not described in 30 articles (70%). Reasons for withdrawals were not given in 10 reports (23%). No attempt at blinding was reported in 31 studies (72%).

The quality of RCTs of oral implants is generally poor and needs to be improved. (INT J ORAL MAXILLO-

The quality of RCTs of oral implants is generally poor and needs to be improved



**How many new
implant systems?**

Number of implants 2006

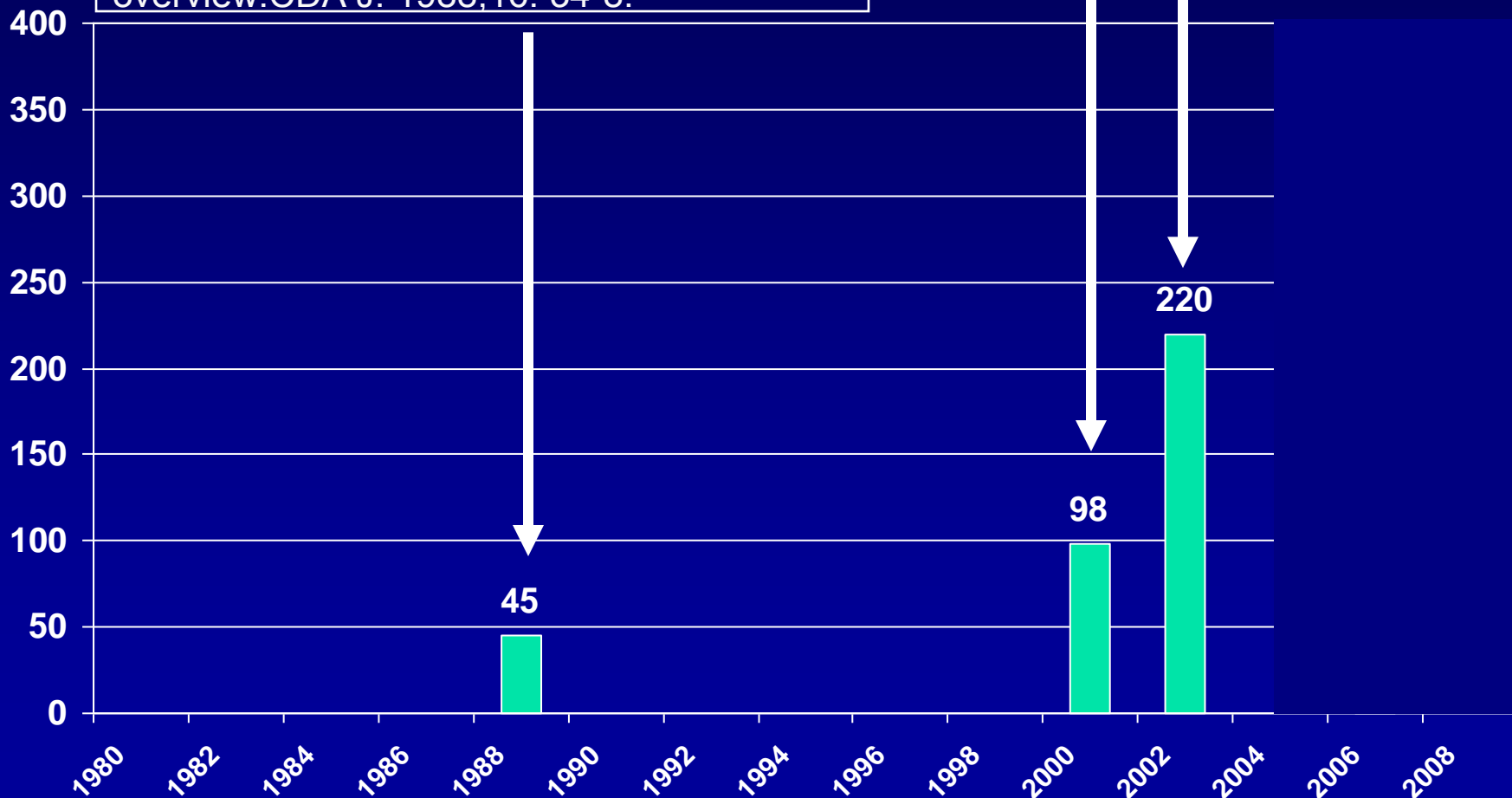


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Binon PP. Implants and components: entering the new millennium. Int J Oral Maxillofac Implants. 2000;15:76-94.

English CE. Implants. Part three. An overview. CDA J. 1988;16: 34-8.

Jan 2007





Number of implants 2008

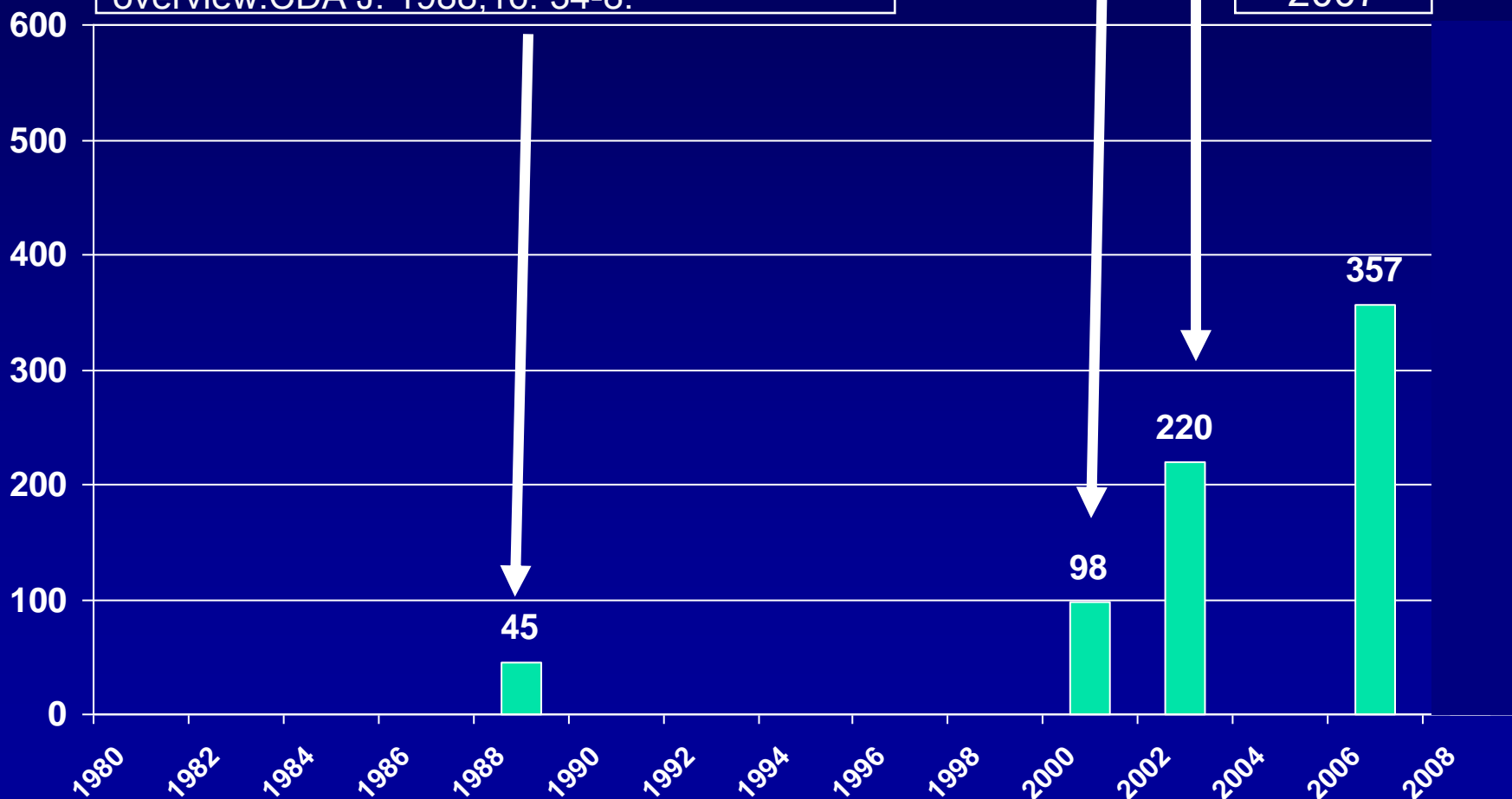
Jokstad A, et al. Quality of dental implants. Int Dent J. 2003;53(6 Suppl 2):409-43

Binon PP. Implants and components: entering the new millennium. Int J Oral Maxillofac Implants. 2000;15:76-94.

English CE. Implants. Part three. An overview. CDA J. 1988;16: 34-8.

Jan 2007

Jan 2008





Implant Manufacturers

| | |
|-------------------------|----|
| <i>USA:</i> | 28 |
| <i>Germany:</i> | 25 |
| <i>Italy:</i> | 14 |
| <i>Korea:</i> | 8 |
| <i>Spain:</i> | 8 |
| <i>Brazil:</i> | 5 |
| <i>Switzerland :</i> | 5 |
| <i>Canada:</i> | 4 |
| <i>France:</i> | 4 |
| <i>Sweden:</i> | 4 |
| <i>Israel:</i> | 3 |
| <i>United Kingdom:</i> | 3 |
| <i>Other countries:</i> | 9 |



per 2.2007
(n=120)



Implant Manufacturers

| | |
|-------------------------|----|
| <i>USA:</i> | 28 |
| <i>Germany:</i> | 25 |
| <i>Italy:</i> | 14 |
| <i>Korea:</i> | 8 |
| <i>Spain:</i> | 8 |
| <i>Brazil:</i> | 5 |
| <i>Switzerland :</i> | 5 |
| <i>Canada:</i> | 4 |
| <i>France:</i> | 4 |
| <i>Sweden:</i> | 4 |
| <i>Israel:</i> | 3 |
| <i>United Kingdom:</i> | 3 |
| <i>Other countries:</i> | 9 |

| | |
|-------------------------|----|
| <i>Germany:</i> | 32 |
| <i>USA:</i> | 31 |
| <i>Italy:</i> | 15 |
| <i>Korea:</i> | 10 |
| <i>Spain:</i> | 10 |
| <i>Brazil:</i> | 9 |
| <i>France:</i> | 7 |
| <i>Japan</i> | 6 |
| <i>Switzerland :</i> | 6 |
| <i>Canada:</i> | 4 |
| <i>Sweden:</i> | 4 |
| <i>Israel:</i> | 3 |
| <i>United Kingdom:</i> | 3 |
| <i>Other countries:</i> | 9 |



**Feb. 2008?
(n=147!)**

Feb 2007: n=120



**Clinical
documentation of
the new implant
systems?**



Implant systems introduced since October 2003 ?

The screenshot shows the PHI Primary Healing Implant website interface. At the top, there are flags for Italy and the United Kingdom, followed by the PHI logo and the text "Primary Healing Implant™". A "Back" button is visible in the top right corner. Below the logo, there are navigation buttons for "Introducer" and "Instructions". A central navigation menu lists various product categories: AMALGAMS, BRILLS, CUTTING BLADES, KEYS, BEARS, IMPLANTS, BONE TAPPER, ABUTMENTS, BONE BRASSES, OVERCHROME, SINE RESOLUTION, INSTRUMENTS, TRANSFER, and SCREWS. The "IMPLANTS" category is selected, and a table of implant products is displayed. The table has columns for "picture", "description", and "code".

| picture | description | code |
|---------|------------------------------|------|
| | RMS implants | VVR |
| | Smooth titanium implant | VI |
| | Plasma-sprayed implants | VI |
| | Gold sanded titanium implant | VO |
| | Sanded implants | VH |



New Implant materials

Willkommen bei Z-Systems

- :: Deutsch
- :: Englisch
- :: Français
- :: Español
- :: Italiano



World's first certified

Dental Zirconiumoxide Implants

Home - Microsoft Internet Explorer provided by Faculty of Dentistry

http://



Address http://www.z-systems.co.nz/



World's first certified

Dental Zirconiumoxide Implants



Home

- Research
- Products
- News
- Field cases
- FAQ's
- Publications

- Customer
- Contact
- Links

Service Hotline
 Phone: +64(0)9 424 5017
 Fax: +64(0)9 428 3641
 Mobile: +64(0)21 971 5140
 Email: contact@z-systems.co.nz

Username

 Password

 Remember me

Home



Time for a change?
 Metal free dental aesthetics with Z-Systems

Z-Lock ceramic dental implants are revolutionising Europe, and are the only certified ceramic implants available in New Zealand.

[more...](#)



Use existing tools – or go 100% metal-free

You can place Z-Lock ceramic dental implants using most standard implant surgical instruments so set-up costs are minimal. Alternatively you can choose to provide a 100% metal free service using Z-Systems latest technology in ceramic tools.



Certified bio-test

Z-Lock ceramic dental implants have passed all required biocompatibility tests and are certified and approved.

In contrast to titanium, fully ceramic materials have a reduced tendency towards



Cosmetically superior

Can you see white through white?

Z-lock ceramic dental implants have a distinct colour advantage over titanium dental implants which tend to show through the thin buccal gingiva, giving a discoloured

Z-Systems Australasia Limited

Courses

Are you ready for the next generation in implant technology?

[Register](#) today for upcoming courses.

News and Events

New Product - Diamond Bur lot Now Available

Live OP Coating Soon

Abstracts Available for

search...

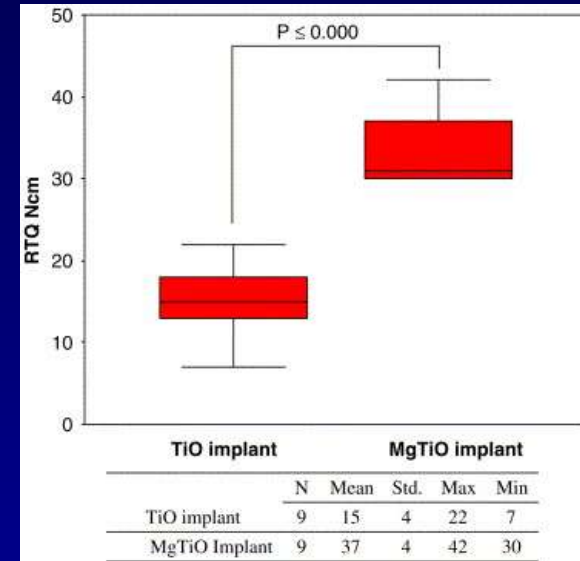


New Implant surface treatment

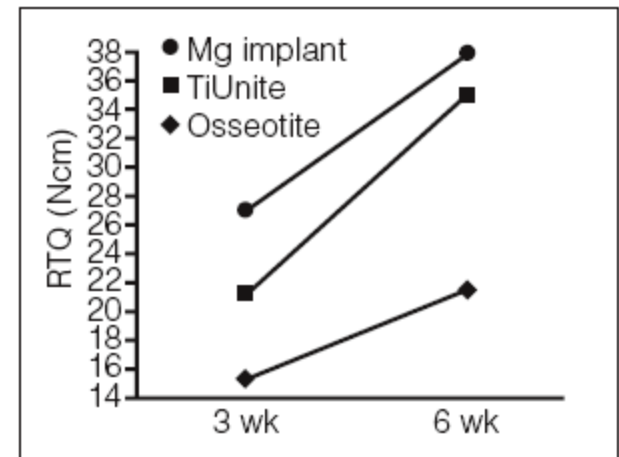
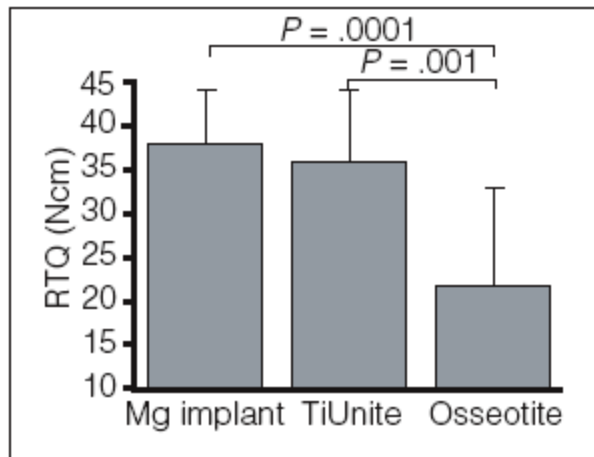
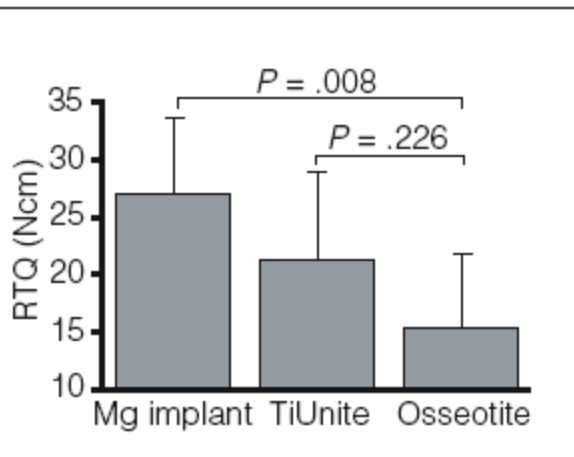
➤ Magnesium ion incorporated, oxidized implants ? Dr Young-Taeg Sul - Korea



Sul YT, et al.
Biomaterials. 2005
Nov;26(33):6720-30

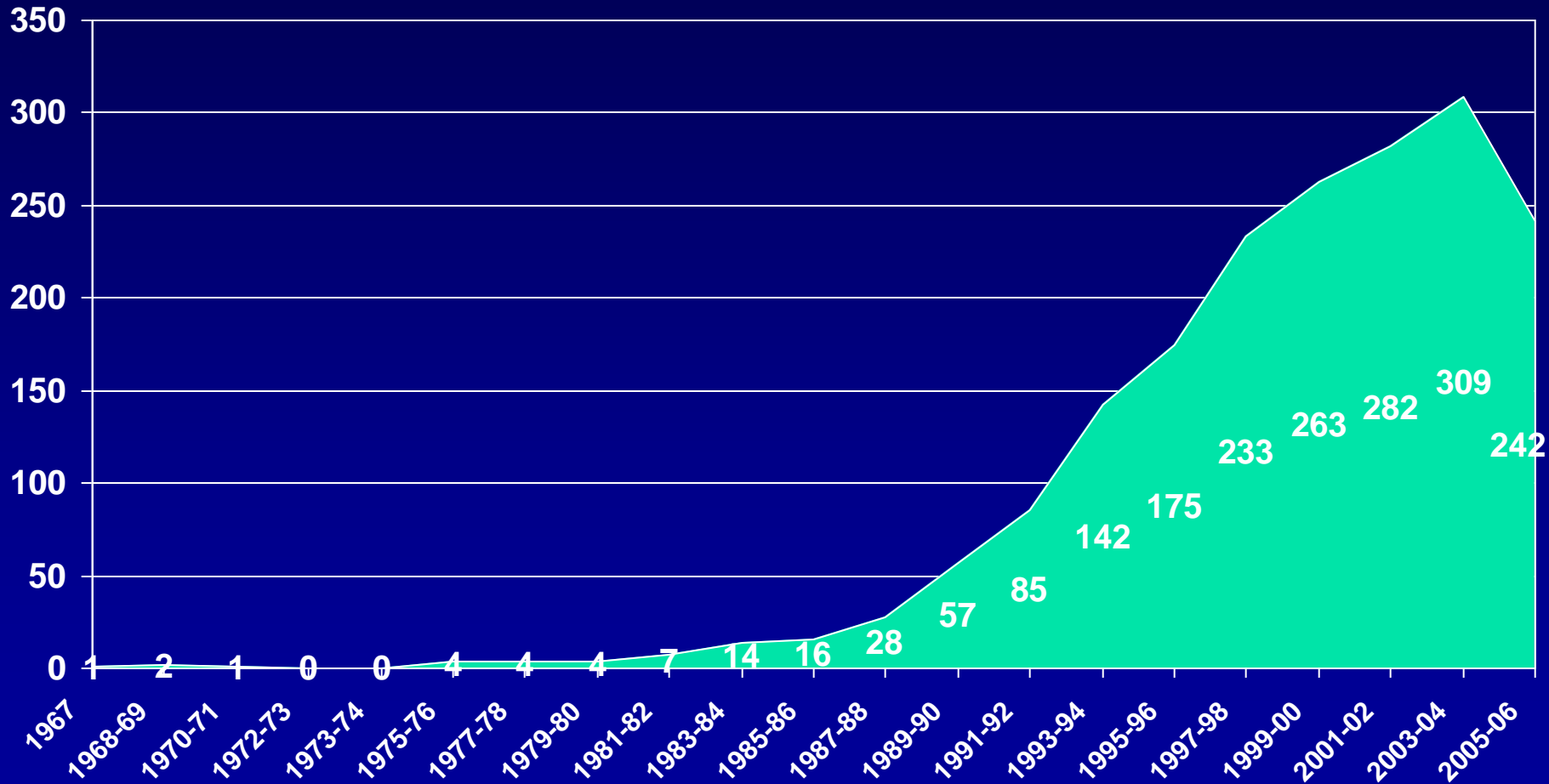


Sul YT, et al. Int J Prosthodont. 2006;19:319-28



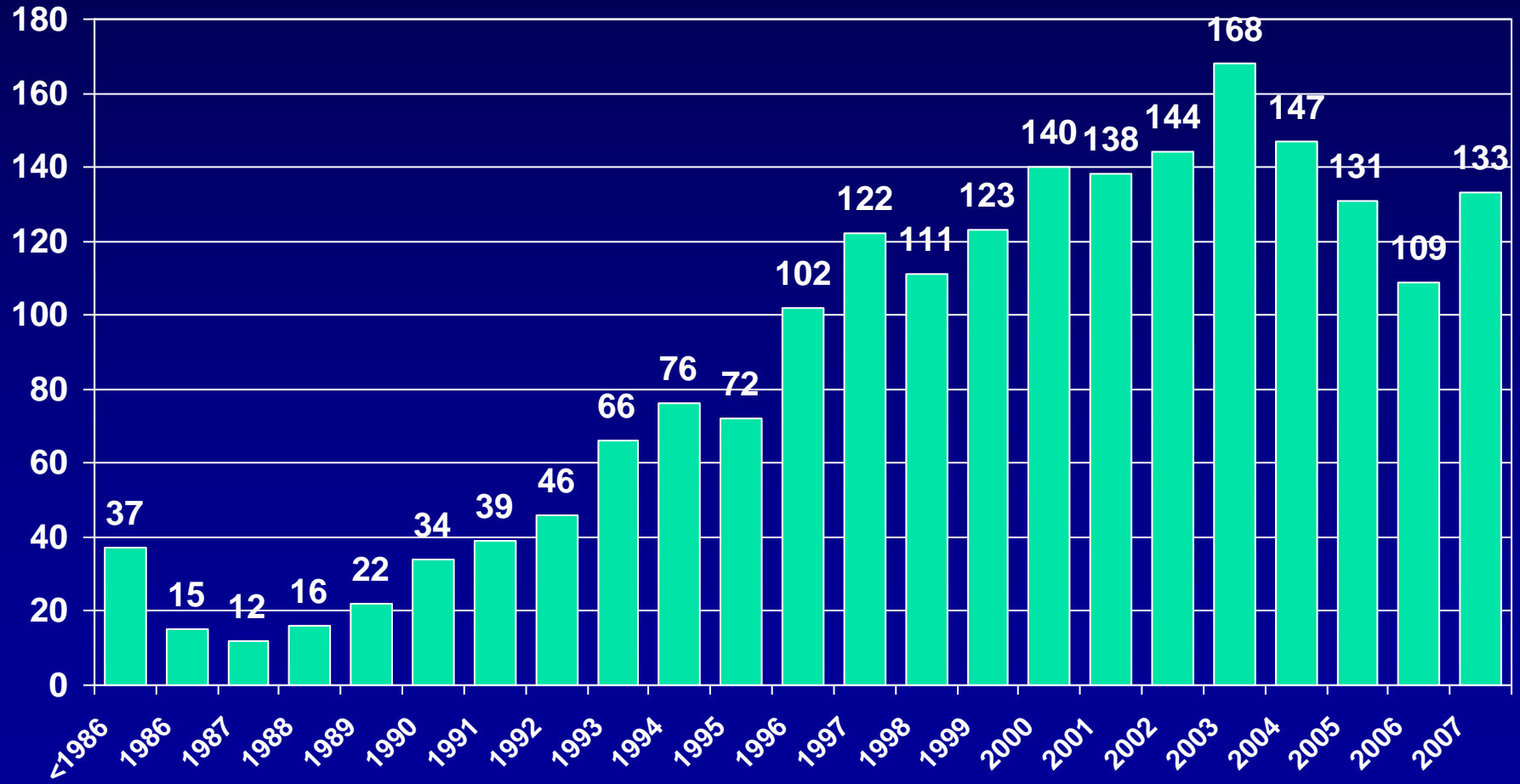


Clinical trials – Dental implants





Clinical trials – Dental implants





Clinical trials – Dental implants

Clinical trials since 2003 = 523

- Brånemark / Replace x8
- ITI /Straumann x4
- 3i/Osseotite x2
- Frialit2/Frialit+/Frialoc/Frios 1
- Astra 1

~75%





www.torontoimplantconference.ca

The Toronto Osseointegration Conference Revisited

25 years since the 1982 Toronto Conference on Osseointegration in Clinical Dentistry

What about the future?

May 8 - 10, 2008
Metro Toronto Convention Centre



Fall
2005



GPs

diagnostics



Medical questionnaire
Consent to obtain more information

Collection, use & disclosure
Consent to use information

Clinical regulations
General consent (for treatment)

Emergency examination chart
Consent for emergency treatment

Medical letter

OD
Chart
audit

(Grad anest) Daily record sheet

(Grad paed)

(oral surg)

(Grad endo)

IPU

(Grad perio)

Undergrad Student

+/- radiographs

+/- report



Master problem

Comprehensive
examination form

Caries
risk

Examination history

Diet

(Gen) Daily record sheet

Referral form

Pros. Consult

Prosthodontics
Graduate / staff

IPU-surgeon

Spring
2006



GPs



diagnostics

Medical questionnaire
Consent to obtain more information

Collection, use & disclosure
Consent to use information

Clinical regulations
General consent (for treatment)

Emergency examination chart
Consent for emergency treatment

Medical letter

OD
Chart
audit

+/- radiographs

+/- report

(Grad anest) Daily record sheet

(Grad paed)

(Grad endo)

(Grad perio)

(oral surg)

IPU

Undergrad Student



Master problem

Comprehensive
examination form

Examination history

Caries
risk

Diet

(Gen) Daily record sheet

Improved Referral form

Pros. Consult

Prosthodontics
Graduate / staff

IPU-surgeon



Fall 2006



GPs

diagnostics



Medical questionnaire

Consent to obtain more information

Collection, use & disclosure

Consent to use information

Clinical regulations

General consent (for treatment)

Emergency examination chart

Consent for emergency treatment

Medical letter

OD Chart audit

(Grad anest) Daily record sheet

(Grad paed)

(oral surg)

(Grad endo)

IPU

(Grad perio)

Undergrad Student

+/- radiographs

+/- report



Master problem

Comprehensive examination form

Caries risk

Examination history

Diet

(Gen) Daily record sheet

Pros. Consult

all other

2 implants / student

Uncomplicated

Single crowns

or

mand. ball-overdenture

Improved Referral form

Pros. Consult

Graduate Prosthodontics /staff

IPU-surgeon



Journal of Dental Education 2006: 70: 580-588

Association Report

Teaching Implant Dentistry in the Predoctoral Curriculum: A Report from the ADEA Implant Workshop's Survey of Deans

Vicki C. Petropoulos, D.M.D., M.S.; Nancy S. Arbreë, D.D.S., M.S.; Dennis Tarnow, D.D.S.; Michael Rethman, D.D.S., M.S.; Jay Malmquist, D.M.D.; Richard Valachovic, D.M.D., M.P.H.; W. David Brunson, D.D.S.; Michael C. Alfano, D.M.D., Ph.D.

Abstract: In 2004, a survey of the deans of U.S. and Canadian dental schools was conducted to determine the implant dentistry curriculum structure and the extent of incorporating implant dentistry clinical treatment into predoctoral programs. The questionnaire was mailed to the deans of the fifty-six dental schools in advance of the ADEA Implant Workshop conference held in Arizona in November 2004. Out of the fifty-six, thirty-nine responded, yielding a response rate of 70 percent.



Conclusions –predoctoral students

- Single-tooth implant restorations & implant-retained overdenture prostheses are performed in most schools
- There is no clinical competency requirement for surgical implant placement in all schools and implant prosthodontics in most schools
- Prosthodontic specialty faculty are often responsible for teaching implant prosthodontics
- Periodontics and oral and maxillofacial faculty are commonly responsible for teaching implant surgery
- Support from implant companies is common, with most providing for implant components at discounted costs
- There is a lack of adequately trained faculty in implant dentistry, which is a significant challenge in providing predoctoral students with clinical experience with dental implants.



Types of implant-related procedures restored by predoctoral students

| Answer | Number of Responding Schools (%) |
|---|----------------------------------|
| Single tooth molar | 27 (90%) |
| Single tooth bicuspid | 26 (87%) |
| Implant overdenture with two implants and ball or stud attachment | 25 (83%) |
| Single tooth anterior | 18 (60%) |
| Simple 2-3-4 unit free-standing fixed partial denture | 10 (33%) |
| Implant overdenture with two implants and a bar attachment | 5 (17%) |
| No limit | 1 (3%) |
| Other* | |

*"Other" answers given:

- Assessed on a case-by-case basis for complexity.
- We are at the very beginning of a new clinical education program. Many answers reflect what we plan to do but have not reached the point yet of doing.
- No full mouth rehab, but do fixed-detachable mandibular prosthesis.
- Many times two implants will be placed in the posterior region of the mouth. These implants are typically restored as single crowns although occasionally they are splinted together.
- Simple two-unit free-standing fixed partial denture.
- We practically have no limits. The reason we can provide this type of experience is in part due to our surgical support from perio and oral surgery as well as the time that I invest with the students to guide them through the experience. My only specific restrictions are cases that we prefer to be under the supervision of grad prosthodontics, such as: immediate loading, fixed detachable, complex implant supported bar overdenture prostheses, and other full-mouth rehabilitations.



Types of implant-related procedures restored by predoctoral students

Table 3. Types of cases for implant placement (percentages are based on the nine schools that responded to this question)

| Answer | Number of Responding Schools (%) |
|-------------------------------|----------------------------------|
| Missing bicuspid | 8 (89%) |
| Missing molar | 7 (78%) |
| Fully edentulous mandible | 7 (78%) |
| Partially edentulous mandible | 4 (44%) |
| Missing anterior tooth | 3 (33%) |
| Partially edentulous maxilla | 3 (33%) |
| Fully edentulous maxilla | 1 (11%) |
| Other (specify) | |
| No limits | |

Comments given:

- One-on-one faculty supervision at placement time.
- We do not *require* surgical experience with patients.



Table 4. Faculty teaching implant prosthodontics

| Answer | Number of Responding Schools Out of 35 (%) |
|------------------------|--|
| Prosthodontic faculty | 33 (94%) |
| General dental faculty | 13 (37%) |
| Other (specify)* | 4 (11%) |

**Other" answers:

- Director of implantology: restorative dentist and director, division of operative dentistry
- Oral surgery faculty and residents, periodontal faculty, prosthodontic residents
- Implantology faculty
- Implant center faculty (prosthodontists)

Table 5. Faculty who teach implant surgery to predoctoral students

| Answer | Number of Responding Schools (%) |
|--------------------------------|----------------------------------|
| Periodontics faculty | 27 (77%) |
| Oral and maxillofacial faculty | 25 (71%) |
| Prosthodontic faculty | 7 (20%) |
| General dentistry faculty | 4 (11%) |
| Other* | 5 (11%) |

**Other" answers:

- Implant Center faculty
- Implant Center faculty surgeons

Table 6. Implant prosthodontic fee schedule

| Answer | Number of Responding Schools (%) |
|---|----------------------------------|
| Same as crown or denture with separate abutment fee | 14 (41%) |
| Higher than crown or denture | 9 (26%) |
| Other | 8 (23%) |
| Same as crown or denture | 5 (14%) |
| Not applicable | 2 (6%) |
| Other (specify)* | |

**Other" answers:

- Implant is higher than a crown but fee includes surgery. Denture has separate abutment fee.
- Predoctoral fee schedule for implants is under the University Development Program, which provides special reduced fees, i.e., a single implant crown (including surgical and prosthodontic fees) is ~equivalent to the cost of a three unit FPD in the student clinic.
- Structured to be similar to crown fee so that this could be a viable option for patients who have the choice.
- For the overdentures, we charge as a package (placement of the two implants, two abutments, and the two dentures).
- We charge the standard rate for the prosthesis and an additional \$200 for the implant service regardless of the number of implants used.
- Student fee: implant and crown equals 3 unit FPD at student rate.
- Separate fee for implant placement and abutment installation.
- The actual fee for the crown or the denture is the same. Obviously, there is the additional fee of the workup, surgical template, tomo or CT, and abutment (and any necessary bone grafting procedures).



Student Information

UNDERGRADUATE IMPLANT MANUAL

Discipline of Prosthodontics

Faculty of Dentistry
University of Toronto

2007



Implant Prosthodontics in the undergraduate clinics






Faculty of Dentistry
University of Toronto

September 2007

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Definitions (Discipline of Prosthodontics - A, J. Prosthodontics Society (A) (1942, 2005))

| | |
|---|--|
|  | Abutment, dental implant The portion of a dental implant that serves to support an (or) retain an fixed or removable dental prosthesis—single, partially fixed implant abutments, especially those used with residual dental implants, are changed to other abutment design or use before a definitive dental prosthesis is fabricated. Such a prosthodontic abutment is fixed on a surface or having abutment. The abutment allows to support the denture prosthesis or to retain a denture abutment. Conical implant abutments (especially) are described by their form (e.g., cylindrical (Fig. 1A), ball (Fig. 2), barrel, conical (Fig. 3), conical, cylindrical, conical), or special design factors (e.g., internal ball lock, external ball lock, etc.). |
|  | Abutment level impression A negative likeness or copy or transfer of the surface of an implant made at the height of the abutment table directly using conventional crown and bridge techniques, or indirectly using an indirect impression copier. |
|  | Abutment form Shows the abutment to the implant fixture, usually fabricated to a form as 3D form. |
|  | Advanced-level impression A replica of a portion of an implant abutment made of wax, stainless steel, or plastic. |
|  | A. Fixed-Base Impression Technique (Direct Copy) B. Fixed-Base Impression Technique (Indirect/Over Copy) C. Ball abutment made prosthodontic |

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Undergraduate implant Manual

Implant Prosthodontics in the undergraduate clinics



Student Information

UNDERGRADUATE IMPLANT MANUAL

Discipline of Prosthodontics

Faculty of Dentistry
University of Toronto

2007



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Definitions

(Discipline of Prosthodontics Terms - R. J. Prosthodontics Society 2007) (R40, 2008)

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| Abutment, dental (implant) | The portion of a dental implant that serves to support another crown or fixed or removable dental prosthesis. Implant-supported dental implant abutments, especially those used with traditional dental implants, are changed to other abutment design or use before a definitive dental prosthesis is fabricated. Such a preliminary abutment is referred to as a try-in or loading abutment. The abutment chosen to support the definitive prosthesis is termed a definitive abutment. Conical implant abutments (implants) are described by their form (e.g., cylindrical (Fig. A), ball (Fig. B), bevel, conical (e.g., conical ball, conical crown process)), or special design factors (e.g., internal ball lock, external ball lock, ball, ball). |
| Abutment level impression | A complete impression or copy of contour of the surface of an implant made at the height of the abutment above directly using conventional crown and bridge techniques, or indirectly using an abutment impression mold. |
| Abutment level | Denotes the abutment to the implant crown, usually aligned to a degree to 33° from |
| Abutment type-implant | A replica of a portion of an implant abutment made of resin, stainless steel, or plastic. |
| | A. Full-arch distal impression B. Abutment impression C. Ball abutment impression |



Undergraduate implant Manual

Student Kits



Student Information

Faculty of Dentistry
University of Toronto

Prosthodontics

General information to patients and undergraduate students:

- Undergraduate students will have the opportunity to provide for their assigned patients one implant-supported overdenture in the mandible (supported by ball attachments on two implants) or up to two implant-supported single crowns.
- The implant prosthodontics must be a component of a comprehensive treatment plan that the CCP coordinator has approved.
- Prerequisites for treatment planning are good study casts, current radiographs, and close knowledge about your patient's dental and medical history, needs and preferences.
- The treatment planning for implant supported prosthesis is to be done in the undergraduate clinic together with your prosthodontic specialty instructor. Your periodontics specialty instructor will also be consulted.
- For 2007-2008, the implant placement surgery will only be available in the Implant Prosthodontic Unit located in the Postgraduate Prosthodontic Clinic.
- All patients require a surgical consultation with an IPU member of the surgical staff before proceeding with implant surgery and further therapy. Consultation appointments are booked through Ms Janet Dravitzer (see address below).
- The student must assure that a surgical visit is made and available for the implant surgery and will be able to observe or assist during the surgery session at the discretion of the surgeon.
- Patient costs will be discounted as each undergraduate student will receive up to 2 free implants plus supplementary components (courtesy of Nobel Biocare).
- Implants are only to be placed into banded extraction sites and usual minimum bony dimensions are 10mm of bone height and 6mm of bone width.

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Ms Janet Dravitzer, Administrative Assistant
Prosthodontic Staff
Dr. James Anderson
Dr. Lester Aron-Anderer
Dr. Ester Caines
Dr. Steve DiGiovanna
Dr. Ramon Garcia
Dr. Natalie Wang
Janet Dravitzer, Dr. Gerald Baker
Dr. Peter Brook
Dr. Catherine Chiles
Dr. Esther David
Dr. Albert Hershkovitz

General Information

Faculty of Dentistry
University of Toronto

September 2007

**Implant Prosthodontics
in the undergraduate clinics**

Faculty of Dentistry
University of Toronto

Treatment Plan (Case # 0202)

Patient Name: CC, TP Implants, Implantation Date Approved: 14 June 2007

| Item | Qty | Description | Unit | Material | Supplier |
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| 1 | 1 | Implant | 1 | CP | CP |
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Faculty of Dentistry
University of Toronto

Prosthodontics

The following documentation package has been prepared to provide you with the guidelines for providing your patient with implant-supported prosthesis.

General information about undergraduate implant prosthodontic program: 3

Patient information about implant-supported overdenture in the lower jaw: 4

Patient information about implant-supported single crowns: 5

Sample form, request for radiographs: 11

Sample form, overdenture mandible: 22

Sample form, single tooth mandibular and maxillary: 23

Checklist, treatment progress for implant prosthesis: 34

Consent form for implant surgery: 35

Postoperative instructions following implant surgery: 36

Form for the Nobel Biocare "Implant Tracker Database": 37

Instructions for patients who will be receiving oral radiation: 38

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- Prerequisites for treatment planning are good study casts, current radiographs, and close knowledge about your patient's dental and medical history, needs and preferences.
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- The student must assure that a surgical visit is made and available for the implant surgery and will be able to observe or assist during the surgery session at the discretion of the surgeon.
- Patient costs will be discounted as each undergraduate student will receive up to 2 free implants plus supplementary components (courtesy of Nobel Biocare).
- Implants are only to be placed into banded extraction sites and usual minimum bony dimensions are 10mm of bone height and 6mm of bone width.
- Patients requiring other types of implant supported prosthesis can be referred to Graduate Prosthodontics. The Dental Faculty Internal referral form must be used before the patient visit.
- The fee is substantially higher.
- The waiting time for consultation or receiving for patients is 1-2 weeks.
- The waiting time for treatment begins at approximately 3-4 weeks after consultation. This time will be longer if there is a need for surgical biopsy and/or special radiography, or a need to evaluate existing pathology of adjacent teeth or soft tissue.
- Overall treatment time is about 7-8 months. This depends on the work being treated - multiple visit work. Mandible: 7-8 months.

Cost estimates (Implantina)

Implant Prosthodontics in the undergraduate clinics